## INTERNATIONAL SEARCH REPORT

PCT/JP2005/022725

| A. CLASS   | F04B39/00  |  |                       |  |  |  |  |  |
|--|--|--|-----------------------|--|--|--|--|--|
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| According t  | to International Patent Classification (IPC) or to both national classif   | fication and IPC   |                       |  |  |  |  |  |
| B. FIELDS  | SEARCHED   |  |                       |  |  |  |  |  |
| Minimum do   | locumentation searched (classification system followed by classification s | ation symbols)   |                       |  |  |  |  |  |
| :  | , .  |  |                       |  |  |  |  |  |
| Documenta  | ation searched other than minimum documentation to the extent that   | touch documents are included in the fields or  |                       |  |  |  |  |  |
|  |  | t 2004 goodilleure die mordden ministratie   | arcieu                |  |  |  |  |  |
| Electronic d   | data base consulted during the international search (name of data b  | base and. where practical, search terms used   | <u> </u>              |  |  |  |  |  |
|  | iternal, PAJ, WPI Data   |  | ,                     |  |  |  |  |  |
|  |  |  |                       |  |  |  |  |  |
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| C. DOCUMENTS CONSIDERED TO BE RELEVANT   |  |  |                       |  |  |  |  |  |
| Category*  | Citation of document, with indication, where appropriate, of the re-   | elevant passages   | Relevant to claim No. |  |  |  |  |  |
| ,  | TO T COO TOP 4 (MATCHOLITTA DEED)  |  |                       |  |  |  |  |  |
| X  | EP 1 338 795 A (MATSUSHITA REFRI COMPANY) 27 August 2003 (2003-08  |  | 1-3,5-7               |  |  |  |  |  |
|  | abstract   |  |                       |  |  |  |  |  |
|  | column 9, line 53 - column 17, l<br>figures 1-11   | ine 17   |                       |  |  |  |  |  |
| x  | PATENT ABSTRACTS OF JAPAN  |  | 1-3,5-7               |  |  |  |  |  |
|  | vol. 2003, no. 12,   |  | 1 0,0 /               |  |  |  |  |  |
|  | 5 December 2003 (2003-12-05)<br>-& JP 2004 293464 A (MATSUSHITA  | EI ECTDIC  |                       |  |  |  |  |  |
|  | IND CO LTD), 21 October 2004 (20   |  |                       |  |  |  |  |  |
|  | abstract; figures 2-4  |  |                       |  |  |  |  |  |
| X  | US 2004/179955 A1 (LEE SUNG TAE)   |  | 1-3,6,7               |  |  |  |  |  |
|  | 16 September 2004 (2004-09-16)   |  | 1 0,0,7               |  |  |  |  |  |
| }  | abstract<br>paragraph '0047! – paragraph '00   |  |                       |  |  |  |  |  |
|  | figures 1-6  |  |                       |  |  |  |  |  |
|  | -  | -/   |                       |  |  |  |  |  |
|  |  |  |                       |  |  |  |  |  |
|  | ner documents are listed in the continuation of Box C.   | X See patent family annex.   |                       |  |  |  |  |  |
|  | Special categories of cited documents:  "T" later document published after the International filing date   |  |                       |  |  |  |  |  |
| conside  | "T" later document published after the International filing date or priority date and not in conflict with the application but clied to understand the principle or theory underlying the invention  |  |                       |  |  |  |  |  |
| filing da  |  | or profity date and not in conflict with the application but clied to understand the principle or theory underlying the invention  shed on or after the international  "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to |                       |  |  |  |  |  |
| which is   | which may throw doubts on priority claim(s) or involve an inventive step when the document is taken alone other special reason (as specified)  Cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the   |  |                       |  |  |  |  |  |
| "O" docume:  | O' document referring to an oral disclosure, use, exhibition or document is combined with one or more other such document.   |  |                       |  |  |  |  |  |
| other means  "P" document published prior to the International filing date but later than the priority date claimed  "a" document member of the same patent family |  |  |                       |  |  |  |  |  |
|  | actual completion of the international search  | Date of mailing of the International search report   |                       |  |  |  |  |  |
| 2 February 2006  |  | 10/02/2006   |                       |  |  |  |  |  |
| Name and mailing address of the ISA/   |  | Authorized officer   |                       |  |  |  |  |  |
| European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk   |  |  |                       |  |  |  |  |  |
| Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,<br>Fax: (+31-70) 340-3016   |  | Kolby, L   |                       |  |  |  |  |  |

Form PCT/ISA/210 (second sheet) (April 2005)

## INTERNATIONAL SEARCH REPORT

International application No

JP2005/022725

| tion). DOCUMENTS CONSIDERED TO BE RELEVANT  |   |
|---|---|
| Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No.   |
| PATENT ABSTRACTS OF JAPAN vol. 2000, no. 08, 6 October 2000 (2000-10-06) & JP 2000 130147 A (MATSUSHITA REFRIG CO LTD), 9 May 2000 (2000-05-09) abstract; figures 1-8 | 1-3,5-7   |
| US 6 206 135 B1 (KIM TAE MIN ET AL) 27 March 2001 (2001-03-27) abstract column 8, line 8 - column 9, line 15 figures 14-17  | 1-5   |
| PATENT ABSTRACTS OF JAPAN vol. 2003, no. 04, 2 April 2003 (2003-04-02) & JP 2002 349436 A (MATSUSHITA REFRIG CO LTD), 4 December 2002 (2002-12-04) abstract           | 1-4,6,7   |
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|   | PATENT ABSTRACTS OF JAPAN vol. 2000, no. 08, 6 October 2000 (2000-10-06) & JP 2000 130147 A (MATSUSHITA REFRIG CO LTD), 9 May 2000 (2000-05-09) abstract; figures 1-8  US 6 206 135 B1 (KIM TAE MIN ET AL) 27 March 2001 (2001-03-27) abstract column 8, line 8 - column 9, line 15 figures 14-17  PATENT ABSTRACTS OF JAPAN vol. 2003, no. 04, 2 April 2003 (2003-04-02) & JP 2002 349436 A (MATSUSHITA REFRIG CO LTD), 4 December 2002 (2002-12-04) |

## INTERNATIONAL SEARCH REPORT

PCT/JP2005/022725

|  | <del></del> | ;;               |  |
|--|-------------|------------------|--|
| Patent document cited in search report |             | Publication date | Patent family Publication member(s) date   |
| EP 1338795                             | A           | 27-08-2003       | AU 2409502 A 03-06-2002<br>BR 0115644 A 06-07-2004<br>CN 1494636 A 05-05-2004<br>WO 0242644 A1 30-05-2002<br>JP 3677447 B2 03-08-2005<br>JP 2002161855 A 07-06-2002<br>US 2005100456 A1 12-05-2005 |
| JP 2004293464                          | <b>A</b>    | 21-10-2004       | BR 0403929 A 04-01-2005<br>CN 1697931 A 16-11-2005<br>EP 1491767 A1 29-12-2004<br>WO 2004085849 A1 07-10-2004<br>US 2005207920 A1 22-09-2005   |
| US 2004179955                          | A1          | 16-09-2004       | BR 0301430 A 07-12-2004<br>CN 1530543 A 22-09-2004<br>JP 2004278507 A 07-10-2004   |
| JP 2000130147                          | Α           | 09-05-2000       | NONE   |
| US 6206135                             | B1          | 27-03-2001       | NONE   |
| JP 2002349436                          | A           | 04-12-2002       | NONE   |
|  |             | ~~~~~~~~~~~      |  |